A fast enzymatic analysis for plasma Glycerol.

| Bulletin Reference | TB – USA – Glycerol – GMRD-177– V.02 |
|---------------------|---|
| Order Code(s) | GMRD-177 |
| Reagent Kit Size(s) | 100 ml (140 analyzer cycles) |
| Instruments | All GM7 series analyzers |
| Samples | Plasma, serum |
| Sample Volume | 25 μΙ |
| Analysis Time | 20 - 25 seconds |
| Linearity | 1.0 mmol/L (9.2 mg/dl) |
| Detection Limit | 0.1 mmol/L (ca. 0.9 mg/dl) |
| Reagent Stability | Shelf-life unopened: 9 months stored at 0 - 5°C. Shelf-life reconstituted: 3 - 4 weeks stored at 0 - 5°C. |
| Note | Levels below ca. 0.2 mmol/L (1.8 mg/dl) can be regarded as clinically normal for human plasma. This kit includes a liquid QC. |
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Principle

In the presence of glycerol kinase (GK), glycerol is phosphorylated by adenosine triphosphate (ATP) forming glycerol-3-phosphate (G-3-P) which in turn is oxidised by glycerol-3-phosphate oxidase (GPO) to dihydroxyacetone phosphate (DAP) and hydrogen peroxide,

Glycerol+ Adenosine Triphosphate (ATP)
$$\longrightarrow$$
 Glycerol-3-phosphate + Adenosine Diphosphate (ADP) \longrightarrow Glycerol-3-phosphate + O₂ \longrightarrow Dihydroxyacetone Phosphate (DAP) + H₂O₂

Under the conditions of the assay, both reactions run concurrently in the reaction chamber and the rate of oxygen consumption is directly proportional to glycerol concentration.

